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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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John J. Schuster

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EXAMINER

NGUYEN, CHAU M

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/888,244	SCHUSTER ET AL.	
	Examiner	Art Unit	
	Chau M Nguyen	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/17/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Helms et al. (Hereinafter "Helms") (U.S. Pat. No. 6,643,466 B1).

As claim 17, Helms discloses a controller (23, fig. 2) (computer readable medium) having stored therein a plurality of sequences of executable instructions which, when executed by an optical communication system device for distinguishing between a local blockage and a global blockage (col. 4, lines 40-49), cause the device to:

- a) detect a blockage of a pathway for an optical beam (col. 7, lines 36-42); and
- b) compare the amount of power of the optical beam collected by a target receiver station at the pathway with the amount of power of an optical beam collected by at least one reference receiver station in the optical communication system to determine if the blockage is global or local (col. 8, lines 9-18) .

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 and 9, 11, 18, 19, 22, 23, 28 are rejected under 35 U.S.C. 103(a) as being obvious over Helms (U.S. Pat. No. 6,643,466 B1).

As claims 1-3 and 22, Helms discloses a method for communicating optical data in a network, the method comprising:

transmitting (by element 11, fig. 2) an optical beam carrying data into a wireless pathway to a target receiver station (col. 3, lines 43-46);

detecting (by elements 12) power information of the optical beam (col. 3, lines 65-67); and

comparing the power information of the optical beam (received at 12) with an power of another optical beam (received at 24, col. 5, lines 31-34) intended to be received by at least one reference receiver station in the network to determine a atmospheric effects (global blockage) or blockage (local blockage) of the pathway (col. 5, lines 51-65 and col. 8, lines 12-18).

increasing the power of the optical beam transmitted if there is a atmospheric effects (global blockage); and

reducing or maintaining the power of the optical beam transmitted if there is a blockage (local blockage) (Abstract).

Helms does not expressly disclose detecting attenuation of the optical beam. However, Helms discloses attenuation as an information for indicating blockage (col. 7, lines 16-19), and the controller determines blockage based on the difference in the amount of a reduction in laser power (col. 2, lines 56-66). Therefore, it would have been obvious to one having ordinary skill in the art to use a well-known information, such as attenuation (reduction of power), as mentioned above (by Helms) in order to determine the environment (global and/or local blockage) and enhance the controlling of an optical wireless communication system.

As claims 4 and 23, the control process of Helms is repeated (col. 7, lines 8-10) and the power of the optical beam is incrementally increased if there is no local blockage with each repetition, until the power reaches a network based optimal amount (col. 4, lines 57-60).

As claims 9 and 28, Helms, col. 7, line 63- col. 8, line 3 shows the sudden-drop test (performed at receiver 24) is performed after the low-signal test (performed at receiver 12).

As claims 11, Helms discloses a transmitter station comprising:

- a) a light source (11, fig. 2) for generating an optical beam ;
- b) a transmitter aperture for sending the optical beam into a wireless pathway to a target receiver station (col. 3, lines 43-46);
- c) a communication interface (12 and 24) to receive power information of the

optical beam at the target receiver station (by 12) and power information of another optical beam at a reference receiver station (by 24), as an indication of a local or global blockage of the pathway (col. 5, lines 21-50) ; and

d) a power controller (23) to increase the optical beam in if there is a atmosphere effects (global blockage) or decrease or maintain the optical beam if there is a blockage (local blockage) (col. 5, lines 51-65 and col. 8, lines 12-18).

Helms does not expressly disclose detecting attenuation of the optical beam. However, Helms discloses attenuation as an information for indicating blockage (col. 7, lines 16-19), and the controller determines blockage based on the difference in the amount of a reduction in laser power (col. 2, lines 56-66). Therefore, it would have been obvious to one having ordinary skill in the art to use a well-known information, such attenuation (reduction of power), as mentioned above (by Helms) in order to determine the environment (global and/or local blockage) and enhance the controlling of an optical wireless communication system.

As claims 18 and 19 (depended on claim 17), Helms, shows increasing the power of the optical beam transmitted if there is a atmospheric effects (global blockage) and reducing or maintaining the power of the optical beam transmitted if there is a blockage (local blockage) (see Abstract).

5. Claims 5-8, 10, 12-16, 20, 21, 24-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms (U.S. Pat. No. 6,643,466 B1) as applied to claims 1, 11, 17 and 22 above, in view of Ibanez-Meier et al. (Hereinafter "Ibanez-Meier") (U.S.

Pat. No. 5,946,603).

As claims 5, 7, 8, 12, 14, 15, 20, 21, 24, 26 and 27, Helms fails to show measuring the amount of backscatter as an indication of a local or global blockage. However, Ibanez-Meier discloses a step of receiving and measuring backscatter as an indication of a local or global blockage (step 128, fig. 9, col. 7, lines 19-26). Since both system deal with optical wireless communication, particularly, response to environment blockage, therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to imply measuring backscatter as taught by Ibanez-Meier into the method of Helms in order to indicate or determine blockage (local blockage) or atmospheric effects (global blockage). One would have motivated for using this method since the reflected light from obstructions will be directly detected, accordingly, the responding of the system to the blockage or obstructions will be speed up.

As claims 6, 13 and 25, Ibanez-Meier discloses the transmitting of an optical beam is by pulsing and the time for testing/detecting backscatter only during an extended period of time corresponding to backscatter from a global blockage (col. 7, lines 59-61 and col. 8, lines 19-24).

As claims 10, 16 and 29, Ibanez-Meier discloses a terminal (16, fig. 1) (central station) sending instructions to the transmitter station or target receiver station (12) to adjust a system parameter according to whether the blockage is local (obstruction) or global (weather) (Ibanez-Meier, col. 10, lines 4-8).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Goodwill (U.S. Pat. No. 6,775,480 B1) is cited to show free space optical interconnect system.

Cato (U.S. Pat. No. 5,229,593) is cited to show apparatus and method for safe, free space laser communication

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau M Nguyen whose telephone number is 571-272-3030. The examiner can normally be reached on Mon-Fri from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.M.N.
Sept. 28, 2004


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